

## CLAIMS

What is claimed is:

1           1.     A method comprising:  
2                 controlling multicast traffic in a layer 2 network, the layer 2 network  
3 including a plurality of devices associated with the network, the plurality of devices  
4 including a transmitter, a receiver, and a layer 2 device, the transmitter and the receiver  
5 coupled to the layer 2 device, wherein controlling the multicast traffic includes  
6                 sending a multicast traffic control protocol query from the layer 2  
7 device to the receiver on the layer 2 network;  
8                 receiving a multicast traffic control protocol report in response to  
9 the multicast traffic control protocol query; and  
10                determining whether to perform multicast traffic control protocol  
11 pruning on the layer 2 network from the layer 2 device based on the report received.

1           2.     The method of claim 1 wherein the layer 2 device has a plurality of ports  
2 to which the multicast traffic is selectively forwarded, wherein the transmitter and the  
3 receiver are joined to one or more of the ports, and wherein determining whether to  
4 perform multicast traffic control protocol pruning on the layer 2 network from the layer  
5 2 device based on the report received includes maintaining a multicast traffic control  
6 protocol pruning table to store information regarding which ports are joined.

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1           3.       The method of claim 1 further comprising generating periodic multicast  
2 traffic control protocol queries, and wherein sending a multicast traffic control protocol  
3 query from the layer 2 device to the receiver on the layer 2 network further includes  
4 sending at least one of the periodic queries.

1           4.       The method of claim 1 further comprising ensuring that at least one  
2 device on the layer 2 network is sending the multicast traffic control protocol query at  
3 selected time intervals.

1           5.       The method of claim 4 wherein ensuring that at least one device on the  
2 layer 2 network is sending the multicast traffic control protocol query at selected time  
3 intervals includes executing a multicast traffic control protocol querier algorithm.

1           6.       An article of manufacture comprising a machine accessible medium  
2 providing a plurality of machine readable instructions that, when executed by a  
3 machine, cause the machine to perform operations comprising:

4                   controlling multicast traffic in a layer 2 network, the layer 2 network  
5 including a plurality of devices associated with the network, the plurality of devices  
6 including a transmitter, a receiver, and a layer 2 device, the transmitter and the receiver  
7 coupled to the layer 2 device, wherein controlling the multicast traffic includes

8                   sending a multicast traffic control protocol query from the layer 2  
9 device to the receiver on the layer 2 network;

10                   receiving a multicast traffic control protocol report in response to  
11 the multicast traffic control protocol query; and

12 determining whether to perform multicast traffic control protocol  
13 pruning on the layer 2 network from the layer 2 device based on the report received.

1 7. The article of manufacture of claim 6 wherein the layer 2 device has a  
2 plurality of ports to which the multicast traffic is selectively forwarded, wherein the  
3 transmitter and the receiver are joined to one or more of the ports, and wherein  
4 determining whether to perform multicast traffic control protocol pruning on the layer 2  
5 network from the layer 2 device based on the report received includes maintaining a  
6 multicast traffic control protocol pruning table to store information regarding which  
7 ports are joined.

1 8. The article of manufacture of claim 6 further comprising generating  
2 periodic multicast traffic control protocol queries, and wherein sending a multicast  
3 traffic control protocol query from the layer 2 device to the receiver on the layer 2  
4 network further includes sending at least one of the periodic queries.

1 9. The article of manufacture of claim 6 further comprising ensuring that at  
2 least one device on the layer 2 network is sending the multicast traffic control protocol  
3 query at selected time intervals.

1 10. The article of manufacture of claim 9 wherein ensuring that at least one  
2 device on the layer 2 network is sending the multicast traffic control protocol query at  
3 selected time intervals includes executing a multicast traffic control protocol querier  
4 algorithm.

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1           11.    A method comprising:  
2                   controlling multicast traffic in a layer 2 network, the layer 2 network  
3 including a plurality of devices associated with the network, the plurality of devices  
4 including a transmitter, a receiver, and a layer 2 device, the transmitter and the receiver  
5 coupled to one or more of the ports, wherein controlling the multicast traffic includes  
6                   sending an Internet Group Management Protocol (IGMP) query  
7 from the layer 2 device to the receiver on the layer 2 network;  
8                   receiving an IGMP report in response to the IGMP query; and  
9                   determining whether to perform IGMP pruning on the layer 2  
10 network from the layer 2 device based on the report received.

1           12.    The method of claim 11 wherein the layer 2 device has a plurality of  
2 ports to which the multicast traffic is selectively forwarded, wherein the transmitter and  
3 the receiver are joined to one or more of the ports, and wherein determining whether to  
4 perform IGMP pruning on the layer 2 network from the layer 2 device based on the  
5 report received includes maintaining an IGMP pruning table to store information  
6 regarding which ports are joined.

1           13.    The method of claim 11 further comprising generating periodic IGMP  
2 queries, and wherein sending an Internet Group Management Protocol (IGMP) query  
3 from the layer 2 device to the receiver on the layer 2 network further includes sending at  
4 least one of the periodic queries.



1           21.     The apparatus of claim 16 wherein the multicast traffic control protocol  
2     is an Internet Group Management Protocol (IGMP).

1           22.     The apparatus of claim 21 wherein the layer 2 device includes a plurality  
2     of ports.

1           23.     The apparatus of claim 21 wherein the layer 2 device includes a switch.

1           24.     The apparatus of claim 21 wherein the layer 2 network comprises a  
2     Virtual Local Area Network (VLAN).

1           25.     The apparatus of claim 21 wherein the layer 2 device includes a plurality  
2     of ports and an IGMP pruning table to determine which ports are joined.

1           26.     An apparatus comprising:  
2                     a layer 2 device;  
3                     means for sending multicast traffic control protocol queries to a layer 2  
4     network which includes the layer 2 device, the means for sending multicast traffic  
5     control protocol queries being executable from the layer 2 device; and

6                     means for controlling multicast traffic in the layer 2 network, the  
7     means for controlling multicast traffic being executable from the layer 2 device.

1           27.     The apparatus of claim 26 wherein the layer 2 device includes a plurality  
2     of ports.

